

WHAT IS CLAIMED IS:

1. A method of processing a wafer, comprising:
introducing a wafer into a first load lock;
partially preheating the wafer in the load lock;
transferring the wafer into a first transition chamber; and
partially preheating the wafer in the transition chamber.
2. The method of claim 1, further comprising:
transferring the wafer into a processing chamber; and
performing a processing step on the wafer in the processing chamber; and
transferring the wafer into a second load lock, wherein the first load lock is either the same or a different load lock than the first load lock.
3. The method of claim 2, further comprising transferring the wafer into a second transition chamber that is either the same transition chamber or a different transition chamber than the first transition chamber and cooling the wafer in the transition chamber after performing the processing step on the wafer.
4. The method of claim 2, further comprising cooling the wafer after the wafer is transferred into the second load lock.
5. The method of claim 2, wherein the first load lock is the same load lock as the second load lock.
6. The method of claim 2, wherein the first load lock is a different load lock than the second load lock.
7. The method of claim 2, wherein the wafer is transferred, after the processing step, to a second transition chamber that is either the same transition chamber or a different transition chamber than the first transition chamber and then transferred into the second load lock.

8. The method of claim 7, further comprising transferring the wafer from the second transition chamber after the processing step to another processing chamber and performing another processing step on the wafer, and then transferring the wafer into the second load lock.
9. The method of claim 8, further comprising cooling the wafer after the wafer is transferred into the second load lock.
10. The method of claim 3, wherein the second transition chamber is the same transition chamber as the first transition chamber.
11. The method of claim 10, wherein the first transition chamber comprises a lamp and two wafer holders.
12. The method of claim 10, wherein the transition chamber comprises a resistive heater and a wafer holder.
13. The method of claim 10, wherein the transition chamber comprises a lamp, two wafer holders, and a cooling plate.
14. The method of claim 3, wherein the second transition chamber is a different transition chamber than the first transition chamber.
15. The method of claim 14, wherein each transition chamber comprises a lamp and two wafer holders.
16. The method of claim 14, wherein each transition chamber comprises a resistive heater and a wafer holder.
17. The method of claim 2, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an isolated chamber; and

after partially preheating the wafer in the first transition chamber, the wafer is transferred from the first transition chamber by a second robot into the processing chamber.

18. The method of claim 17, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the second robot into a second transition chamber which is an isolated transition chamber.

19. The method of claim 18, wherein after the wafer is transferred from the processing chamber into the second transition chamber, the wafer is transferred to another processing chamber by the first robot and treated with another processing step.

20. The method of claim 2, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an isolated chamber; and

after partially preheating the wafer in the first transition chamber; the wafer is transferred from the first transition chamber by the first robot into the processing chamber.

21. The method of claim 20, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into the second load lock.

22. The method of claim 20, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into another processing chamber and treated with another processing step.

23. The method of claim 2, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an un-isolated chamber containing a lamp; and

after partially preheating the wafer in the first transition chamber by heating the wafer with the lamp, the wafer is transferred from the first transition chamber by a second robot into the processing chamber.

24. The method of claim 23, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the second robot into a second transition chamber which is an un-isolated transition chamber.

25. The method of claim 24, wherein after the wafer is transferred from the processing chamber into the second transition chamber, the wafer is transferred to another processing chamber by the first robot and treated with another processing step.

26. The method of claim 2, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an un-isolated chamber containing a lamp; and

after partially preheating the wafer in the first transition chamber by heating the wafer with the lamp, the wafer is transferred from the first transition chamber by the first robot into the processing chamber.

27. The method of claim 26, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into another processing chamber and treated with another processing step.

28. A computer storage medium containing software that, when executed, causes a computer to perform an operation in a wafer processing system, the operation comprising:

introducing a wafer into a first load lock;

partially preheating the wafer in the load lock;
transferring the wafer into a first transition chamber; and
partially preheating the wafer in the transition chamber.

29. The computer storage medium of claim 28, wherein the operation further comprises:

transferring the wafer into a processing chamber; and
performing a processing step on the wafer in the processing chamber; and
transferring the wafer into a second load lock, wherein the first load lock is either the same or a different load lock than the first load lock.

30. The computer storage medium of claim 29, wherein the operation further comprises transferring the wafer into a second transition chamber that is either the same transition chamber or a different transition chamber than the first transition chamber and cooling the wafer in the transition chamber after performing the processing step on the wafer.

31. The computer storage medium of claim 29, wherein the operation further comprises cooling the wafer after the wafer is transferred into the second load lock.

32. The computer storage medium of claim 29, wherein the first load lock is the same load lock as the second load lock.

33. The computer storage medium of claim 29, wherein the first load lock is a different load lock than the second load lock.

34. The computer storage medium of claim 29, wherein the wafer is transferred, after the processing step, to a second transition chamber that is either the same transition chamber or a different transition chamber than the first transition chamber and then transferred into the second load lock.

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Express Mail No. EL849164562US

35. The computer storage medium of claim 34, the operation further comprising transferring the wafer from the second transition chamber after the processing step to another processing chamber and performing another processing step on the wafer, and then transferring the wafer into the second load lock.
36. The computer storage medium of claim 35, the operation further comprising cooling the wafer after the wafer is transferred into the second load lock.
37. The computer storage medium of claim 30, wherein the second transition chamber is the same transition chamber as the first transition chamber.
38. The computer storage medium of claim 37, wherein the transition chamber comprises a lamp and two wafer holders.
39. The computer storage medium of claim 37, wherein the transition chamber comprises a resistive heater and a wafer holder.
40. The computer storage medium of claim 37, wherein the transition chamber comprises a lamp, two wafer holders, and a cooling plate.
41. The computer storage medium of claim 30, wherein the second transition chamber is a different transition chamber than the first transition chamber.
42. The computer storage medium of claim 40, wherein each transition chamber comprises a lamp and two wafer holders.
43. The computer storage medium of claim 40, wherein each transition chamber comprises a resistive heater and a wafer holder.
44. The computer storage medium of claim 29, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an isolated chamber; and

after partially preheating the wafer in the first transition chamber, the wafer is transferred from the first transition chamber by a second robot into the processing chamber.

45. The computer storage medium of claim 44, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the second robot into a second transition which is an isolated transition chamber.

46. The computer storage medium of claim 45, wherein after the wafer is transferred from the processing chamber into the second transition chamber, the wafer is transferred to another processing chamber by the first robot and treated with another processing step.

47. The computer storage medium of claim 29, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an isolated chamber; and

after partially preheating the wafer in the first transition chamber, the wafer is transferred from the first transition chamber by the first robot into the processing chamber.

48. The computer storage medium of claim 47, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into the second load lock.

49. The computer storage medium of claim 47, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into another processing chamber and treated with another processing step.

50. The computer storage medium of claim 29, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an un-isolated chamber containing a lamp; and

after partially preheating the wafer in the first transition chamber by heating the wafer with the lamp, the wafer is transferred from the first transition chamber by a second robot into the processing chamber.

51. The computer storage medium of claim 50, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the second robot into a second transition chamber which is an un-isolated transition chamber.

52. The computer storage medium of claim 51, wherein after the wafer is transferred from the processing chamber into the second transition chamber, the wafer is transferred to another processing chamber by the first robot and treated with another processing step.

53. The computer storage medium of claim 29, wherein:

after partially preheating the wafer in the first load lock, the wafer is transferred by a first robot into the first transition chamber which is an un-isolated chamber containing a lamp; and

after partially preheating the wafer in the first transition chamber by heating the wafer with the lamp, the wafer is transferred from the first transition chamber by the first robot into the processing chamber.

54. The computer storage medium of claim 53, wherein after the wafer is processed, the wafer is transferred from the processing chamber by the first robot into another processing chamber and treated with another processing step.

55. A semiconductor wafer processing system, comprising:

a first and second chamber, the first and second chambers each having one or more processing chambers attached thereto;

a load lock comprising a heating element and attached to the first chamber;
and

two or more transition chambers which separate the first and second chambers, the transition chambers each comprising a heating element disposed therein.

56. The semiconductor wafer processing system of claim 55, wherein the transition chamber heating element comprises a lamp.

57. The semiconductor wafer processing system of claim 56, wherein the transition chambers each comprise two wafer holders.

58. The semiconductor wafer processing system of claim 57, wherein the transition chambers each comprise a cooling plate.

59. The semiconductor wafer processing system of claim 55, wherein the transition chamber heating element comprises a resistive heater.

60. The semiconductor wafer processing system of claim 59, wherein the transition chambers each comprise a wafer holder.

61. A semiconductor wafer processing system, comprising:
a chamber having one or more processing chambers attached thereto;
a load lock comprising a heating element, the load lock being attached to the chamber; and

two or more transition chambers within the chamber, each transition chamber comprising a heating element disposed therein.

62. The semiconductor wafer processing system of claim 61, wherein the transition chamber heating element comprises a lamp.

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63. The semiconductor wafer processing system of claim 62, wherein the transition chambers each comprise two wafer holders.

64. The semiconductor wafer processing system of claim 63, wherein the transition chambers each comprise a cooling plate.

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